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ABSTRACT

From a prepared script, teacher behavior indicating positive and negative attitudes toward students and toward the course material was role played before 16 introductory psychology classroom groups. The treatments were crossed in a 2x2 design. Each class session consisted of the experimental treatment embedded in a 15-minute lecture, an achievement test on the lecture material, and an attitude questionnaire to check on the manipulations. Results indicated that task attitudes exhibited by the instructor influenced student achievement, while interpersonal attitudes did not. It was also noted that while the group with the highest achievement scores had an instructor with positive attitudes toward students and toward course material, the group with the lowest scores had an instructor with positive attitudes toward students and negative attitudes toward the course material. This suggests that the attitude exhibited by the teacher toward the material he is teaching exerts more influence on student achievement as it is typically measured than his attitude toward students as individuals. (Author/RT)

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THE EFFECTS OF PERCEIVED TEACHER ATTITUDES ON STUDENT ACHIEVEMENT*

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Investigations of interpersonal interaction in the teaching-learning process have shown considerable convergence. Basic agreements seem to be emerging from a number of investigations conducted at a variety of levels. Summerizing the area of classroom climate Smith and Hudgins (1964) suggest that basically there are two dimensions confounded in the classroom climate studies. One involves affect, the teacher's liking of the pupils, the other structure, the degree of organization the teacher introduces into the classroom. Anderson (1963) suggests there are three dimensions - affective, procedural, and tasks. The area of classroom climate, according to these reviews, should be subdivided into an affective, a procedural, and possibly a task dimension in order to better understand the activities included in this area.

Ryans (1960) in his studies of the teaching process also isolated three basic patterns of teacher behavior: one dealing with the interpersonal relationship between teacher and pupil; one with the organization of the activities; and the third with the degree of enthusiasm evidenced by the teacher. Here again the affective and procedural dimension can be seen. Ryans' first dimension is related to the teachers attitudes toward pupils, the second to the procedures utilized, and the third to attitudes toward the task at hand.

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Investigations of college faculty-student relations have found similar dimensions. Studies by Gibb (1955), Isaacson and associates (1964) are typical of these studies. Gibb (1955) using the Teacher Behavior Description Questionnaire had 119 students rate a total of 70 different instructors. The resulting scores were then factor analyzed yielding the following factors:

I Friendly, democratic behavior

II Communication behavior

III Organizational behavior

IV Work accomplishment with teacher set goals

Isaacson and associates (1964) in a similar study found the following six factors:

I Skill

II Overload

III Structure

IV Feedback

V Interaction

VI Rapport

The point to be drawn from these studies is that factors relating to the affective dimension occur (Gibb's I, IV and Isaacson's II, V, VI) and also those relating to the organization of the course (Gibb's III, Isaacson's III). This indicates that these dimensions have also occured in studies of interpersonal interaction in higher education. In fact, when Thistlehwaite (1960) asked 1500 National Merit Scholarship winners and finalists to describe their most influential college professors, almost all (96%) reported instructors who had exhibited great enthusiasm for their discipline. At least 80% also pointed out these teachers had exhibited an interest in them as individuals as well as in their work. These were the two most frequent responses. This suggests that the professor's attitudes toward his work, evidenced by his enthusiasm, and

toward his students, evidenced by his interest in them, may be very important in the faculty-student relationship.

The present investigation examines this affective dimension of teacher-pupil interaction in a field experimental setting by creating impressions regarding the teacher's interest in students and course content and examining the effect of these on student achievement. Mastin (1951) examined the effect of one of these variables, the teacher's enthusiasm for course content, on sixth and seventh grade students. In general, he found that the enthusiastic presentation resulted in greater student achievement.

The variable of teacher interest in his work, or enthusiasm will be re-examined in the current investigation, along with a companion variable, interest in the student. If these two attitudes are important in regard to achievement, the following hypotheses should be supported:

1. Students in groups given the impression that their instructor is interested in the course content will achieve significantly higher scores than those given the impression that the instructor is less interested in the course.
2. Students in groups given the impression that their instructor is interested in them as individuals will achieve significantly higher scores than those given the impression that the instructor is less interested in them as individuals.

PROCEDURES

SAMPLE: The sample used in this investigation consisted of 16 existing classroom groups of an introductory psychology course for education majors at Miami University, Oxford, Ohio. These groups ranged in size

from 13 to 41 students. Students who were present at their regular class meeting on the day selected for the experiment were used to comprise that classroom group. A total of 494 students participated in this investigation. The vast majority of them were freshman (77%). Most of the rest were sophomores. Females comprised 82% of the group.

TREATMENT: The experimental session consisted of a fifteen minute lecture followed by a thirty item achievement test over the lecture material and an attitude questionnaire to check on the experimental manipulations. The testing segment took 25 to 30 minutes. The last 5-10 minutes of the session were devoted to discussion of the experiment and answering any questions.

The structure of the course with which the experiment was conducted consisted of one large lecture per week for all students enrolled in the course, about 750, and two smaller discussion periods for each class separately. The experimental session took place three to four weeks prior to the end of the term. During the week that the main lecture was on group dynamics the regular insturctor of the class did not appear, and a substitute instructor was another member of the faculty and was teaching other sections of the course. In addition, he had delivered one of the general lectures and, for this reason, was probably recognized by most of the students.

Four different treatments were divided -- two along the interpersonal attitude dimension and two along the content attitude dimension. The four treatments are described below.

Negative Interpersonal Attitude: The instructor enters the room, stands behind the desk and says, "Good morning, my name is Mr. _____. Your regular instructor will not be here today and I have been asked to serve as instructor for this class today. As I see it, my job as an instructor is to make sure the material is presented. Whether you learn it or not is your responsibility, and is no concern of mine. I think college students are pampered too much by instructors who are overly helpful."

Positive Interpersonal Attitude: The instructor enters the room, sits on the front of the desk and says, "Hi, I'm (first name, last name). Your regular instructor will not be here today, and I've been asked to serve as instructor for this class today. As I see it, my job as an instructor is to help you to learn the material as much as I possibly can."

Negative Task Attitude: "Unfortunately, the subject of this session is not of my own choosing. Your regular instructor asked me to cover the material today. I think he didn't want to cover it himself. I don't think enough valid information is known about this area and most of what has been done is practically meaningless." The material is then read from a manuscript in an uninflected monotone.

Positive Task Attitude: "The material we will be talking about today is from a developing area of educational psychology that will have a great impact on education. Many of the innovations and improvements in classroom instruction, I feel, will come as a result of the kind of work we are talking about today." The material is then read from the manuscript with feeling and interest.

The lecture which was a part of the task treatment was a short, (fifteen minute) presentation of the Flanders system of classroom interaction analysis (Flanders, 1960). This material was chosen because of its apparent relevance to the lecture topic for the week, group dynamics, and the low probability that predominantly freshmen students taking an introductory psychology course would be familiar with the material.

The intent of the experimental manipulation in each case was to do everything possible to create the impression of the desired attitude.

DESIGN

The two levels of the two types of treatment conditions, task and interpersonal, were crossed in a 2x2 design producing four treatment conditions.

1. Negative Interpersonal - Negative Task
2. Negative Interpersonal - Positive Task
3. Positive Interpersonal - Negative Task
4. Positive Interpersonal - Positive Task

Since this investigation was conducted using existing classes during the regular school year, the experimenter could not exercise full control over the subjects. He could only control what class got what treatment. As a consequence of this fact, the classes are treated as the sampling units, and data are analyzed by classrooms.

This design was chosen because it afforded an opportunity to introduce the experimental manipulation into the ordinary year's activities with a minimum of disruption and still maintain a reasonable degree of experimental control.

Groups were assigned to treatments randomly with two restrictions. First, in order to minimize differential effects of time, and with this, possible knowledge of the experiment the groups were divided into blocks of four. Within these blocks groups were assigned to the conditions randomly. The only other restriction was that no two classes in one treatment condition have the same regular instructor. The same person, the author, played the role of experimental instructor in all classes. Care was taken to present all the material to all

groups and an analysis of the proportion of people answering each test item correctly in each group indicated this was accomplished.

INSTRUMENTS:

Two measuring instruments were used in this investigation, an achievement test covering the material presented in the lecture and an attitude questionnaire to assess the student's perception of the instructor's attitude.

The achievement test consisted of thirty multiple choice questions. The majority of these, twenty-four, required the subject to recall information given in the lecture. The remaining six asked him to apply the information in new situations. In appearance this test looked much like a typical classroom test except that it covered the material in greater detail.

The reliability of the instrument, estimated by K.R.21 is .70. This is not as high as might be desirable, but is adequate to assess differences between groups (Helmstadter, 1964).

The semantic differential technique was used to measure students perceptions of the instructors attitudes. A set of 18 evaluative scores was selected on the basis of pre-test information. The split-half reliability of this instrument is .97. Students rated the statement, "The instructor of this session feels college students are" and, "The instructor of this session feels the material covered is" on the 18 scales.

Students were asked their perceptions of the instructor's attitude toward college students as a check on the interpersonal manipulations. Likewise, they were asked their perceptions of the instructor's attitude toward the material to check the task manipulations. Basically, the idea is that if students in the negative treatments report more negative perceptions of faculty attitudes than the positive attitude groups, then the manipulations were successful.

A full description of both these instruments and the techniques used to construct them has been reported elsewhere (Mayberry, 1968).

RESULTS

To determine the effectiveness of the interpersonal treatment, individuals responses were summed across the 18 semantic differential scales for the concept, "The instructor of this session feels college students are." Group means were obtained for each of the experimental groups and these 16 group means were used in a two-way analysis of variance. Results of this analysis are shown on Table 1.

INSERT TABLE 1 HERE

The expected difference due to the manipulation of the interpersonal relationship did appear and is significant at the .01 level ($F = 11.74$), with the positive interpersonal group having a more positive attitude. However, an unanticipated and even stronger effect was noted for the task manipulation dimension ($F = 24.99$), with the positive interpersonal attitude group seeing the instructor as having a more positive attitude toward the task.

In similar fashion, group means on the concept, "The instructor of this session feels the material is", were computed and used in a two-way analysis of variance. These results are given in Table 2.

INSERT TABLE 2 ABOUT HERE

This analysis indicates a clear difference due to the task attitude manipulation, $F = 307.41$, indicating a strong task attitude effect with subjects in the positive task attitude situation perceiving a more positive task attitude on the part of the instructor. No other significant effects were uncovered.

Taken together these two analyses indicate that the experimental manipulations were successful in creating the desired conditions. The interpersonal manipulation, however, effected both interpersonal and task attitudes.

To test the hypotheses relating achievement and perceived instructor attitude, a two-way analysis of variance, using group means on the achievement measure was computed. Results of the analysis are shown in Table 3.

INSERT TABLE 3 ABOUT HERE

This analysis shows no significant difference due to interpersonal attitude. A significant task attitude difference, $F = 34.62$, $p < .01$ was detected. Subjects in the negative task attitude condition scored lower than the positive task attitude groups. The overall mean for the positive task attitude groups was 15.3; for the negative task attitude

group it was 12.2. In addition there was an interaction effect significant at the .05 level. The treatment group means, shown in Table 4, indicate a positive interpersonal attitude associated with a negative task attitude resulted in the lowest level of achievement and a positive interpersonal attitude associated with a positive task attitude resulted in the highest achievement.

INSERT TABLE 4 ABOUT HERE

DISCUSSION

One of the basic factors in the design of this investigation was that components of classroom interaction that have usually been lumped together under the title of classroom climate could be separated and studied individually. This study demonstrates the feasibility of such an approach and hopefully will lead to additional investigations of a similar nature.

The differential nature of the effects generated by the task and interpersonal manipulations in this study were somewhat unanticipated. The assumption of this study was that task related behavior would be related to task attitudes and interpersonal behavior would be related to interpersonal attitudes. This was true as far as it went. However, there is strong evidence to suggest that the task related behavior had the greater effect in both areas. Several explanations are possible. One, the task and interpersonal dimensions may not have been separated clearly and what was called task manipulation was in fact a mixture of both interpersonal and task components. This cannot be disproved by these data. Also, the manipulations were each of unknown magnitude, so one could have been much stronger. Another possibility is that the two

dimensions are of unequal importance in the formulation of attitudes in an educational setting. The task dimension may be of greater importance in formulating student perceptions about instructors. Given that the basic nature of education is primarily task oriented, this should not be too surprising. This investigation raises but cannot answer this question.

The investigation was designed to answer questions relating instructor attitudes and achievement. Only one of the two hypotheses that guided this investigation was supported. Task attitudes exhibited by the instructor influenced student achievement, while interpersonal attitudes did not. This suggests that the attitude exhibited by the teacher toward the material he is teaching exerts more influence on student achievement as it is typically measured than his attitude toward students as individuals.

Several factors may account for these results. College students may well be more task oriented than the general student populations, since they have been selected on prior achievement, and thus more susceptible to achievement manipulations. However, Mastin's study using elementary school subjects found a strong "enthusiasm" effect. It also may be argued that the task manipulation was stronger than the interpersonal manipulation and this might be responsible for the differential effects on achievement.

This eventuality cannot be disproved by these data. However, the magnitude of the differences in effect on achievement of the two treatments suggests that task attraction on the part of the instructor is the more critical of the two variables for student achievement. On a

practical level, this would suggest that efforts to facilitate a positive attitude toward the classroom on the part of the teacher would offer a better chance of improving student achievement than attempts at altering attitudes about students. On a more abstract level, this investigation would suggest that investigations into how faculty members communicate interest or indifference toward their course might prove useful. The techniques used in this investigation were very crude and left much to be desired. Evidence of this is the fact that the most positive of the four treatment conditions had a mean rating slightly on the boring side of neutral on the boring-exciting scale of the semantic differential. Study of these variables could lead to a better understanding of how these affective concepts are communicated in an educational setting and possibly to develop clearer techniques of affective communication.

The interaction effect observed in this study between interpersonal and task attitudes in their relationship to achievement may be an artifact of the study design. In this investigation the interpersonal manipulation always preceeded the task manipulation. Any other arrangement seemed unrealistic. To tell a group what they are going to do and then greet them had an artificial ring to it. Consequently, the original impressions that were formed were based on the interpersonal condition. Thus, when an originally bad impression, negative interpersonal attitude, was paired with another negative condition, negative task attitude, the situation was bad as expected. On the other hand when a potentially interesting situation, positive interpersonal attitude, was paired with a negative task situation, the resulting situation hindered achievement even more.

Taken as a whole, the findings of this study suggest that the most important affective response for a teacher, at least at the college level, is positive attitude shown by interest in the material he is dealing with. Interest in the students is of secondary importance. There is also an indication that a high degree of interest in students, coupled with a low interest in the material, is the worst of the conditions examined for student achievement.

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TABLE 1

Two Way Analysis of Variance of Scores on Students' Perceptions of Instructor's Attitude toward Students

Source	df	Mean Squares	F
Interpersonal	1	232.56	11.74*
Task	1	495.06	24.99*
Interpersonal x Task	1	33.07	1.67
Error	12	19.81	

* Significant at .01 level

TABLE 2

Two Way Analysis of Variance of Scores on Students' Perceptions of Instructor's Attitude toward the Material

Source	df	Mean Squares	F
Interpersonal	1	72.25	4.35
Task	1	5112.25	307.41*
Interpersonal x Task	1	25.00	1.50
Error	12	16.63	

* Significant at .01 level

TABLE 3

Two Way Analysis of Variance of Scores on Students' Achievement on the Experimental Task

Source	df	Mean Square	F
Interpersonal	1	0.25	
Task	1	36.00	34.62*
Interpersonal x Task	1	6.25	6.01**
Error	12	1.04	

* Significant at .01 level
** Significant at .05 level

TABLE 4

Mean of Group Means on Achievement Variable for Each Treatment Condition

		Interpersonal Attitude	
		Negative	Positive
Task Attitude	Positive	14.8	15.8
	Negative	13.0	11.5